

OPERATOR'S MANUAL

650501-B

INCLUDING: OPERATION, INSTALLATION & MAINTENANCE

ALSO INCLUDE MANUALS: PD02P-X DIAPHRAGM PUMP (PN 97999-680), 2752X-X MATERIAL REGULATOR (PN 97999-674), P292X1-XXX PIGGYBACK FILTER / REGULATOR (PN 100400-8), R272X1-XXX REGULATOR (PN 100400-6).

RELEASED: 10-1-96
REVISED 6-22-10
(REV. B)

650501-B

LOW PRESSURE DELIVERY SYSTEM

1/4" DIAPHRAGM PUMP, 1:1 RATIO, WITH WALL / CART MOUNT
FOR USE WITH CONVENTIONAL HVLP / AIR SPRAY SYSTEMS
(SPRAY GUN NOT INCLUDED)



**READ THIS MANUAL CAREFULLY BEFORE INSTALLING,
OPERATING OR SERVICING THIS EQUIPMENT.**

It is the responsibility of the employer to place this information in the hands of the operator. Keep for future reference.

SERVICE KITS

Use only genuine ARO replacement parts to assure compatible pressure rating and longest service life.

- Diaphragm Pump Rebuild Kit 637314-DT.
- Air Valve Repair Kit 637311.
- Pump Wet End Repair Kit 637313-DT.

Refer to the PD02P-X Operator's Manual for parts / repair and service information.

PUMP SYSTEM DATA

MODEL 650501-B Low Pressure Delivery System
PUMP MODEL PD02P-ADS-DTT
PUMP TYPE Non-Metallic Air Operated Double Diaphragm with acetal seats
MATERIAL Groundable Acetal
WEIGHT 20.5 (9.3 kgs)
AIR INLET 1/4" - 18 N.P.T.F.
AIR CONSUMPTION 1 c.f.m. per gallon (approximately)
MAX. AIR INLET PRESSURE 100 p.s.i.g. (6.9 bar)
MAX. OUTLET PRESSURE 100 p.s.i.g. (6.9 bar)
MAXIMUM FLOW RATE .. 4.6 g.p.m. (17.4 l/m)
MAXIMUM PARTICLE SIZE 1/32"
MAX. OUTPUT PER CYCLE .014 gallons (53 cc's)
MAXIMUM TEMP. LIMITS . 10° to 180°F (-12° to 82°C)
DIMENSIONAL DATA See page 3
NOISE LEVEL □ 59.8 db(A) @ 70 psi, 60 cycles per minute.

□ The pump sound pressure levels published here have been updated to an Equivalent Continuous Sound Level (L_{Aeq}) to meet the intent of ANSI S1.13-1971, CAGI-PNEUROP S5.1 using four microphone locations.

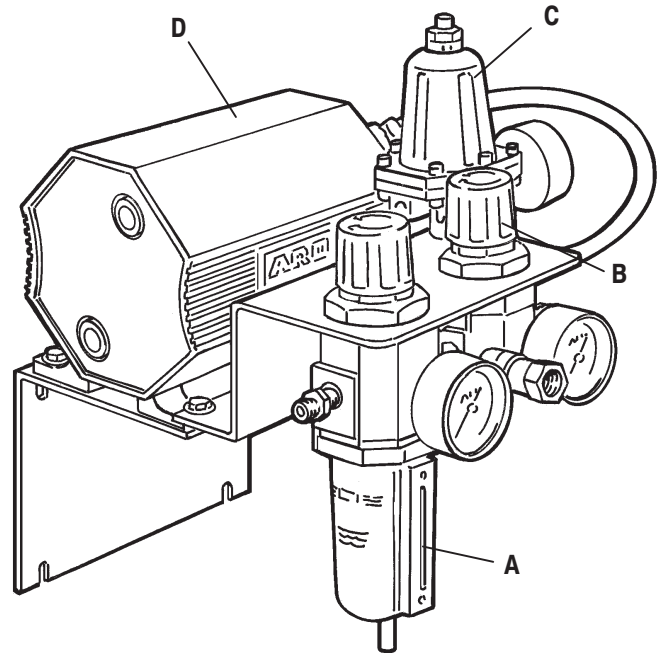


FIGURE 1

MAJOR COMPONENTS LIST

* Operator's Manuals are provided, which cover parts and service information.

Item	Description	Qty	Part No.	Item	Description	Qty	Part No.
A	Modular Piggyback*	(1)	P29221-210	C	1/4 Sst / Carbide Regulator*	(1)	27520-400
B	Modular Regulator*	(1)	R27221-100	D	1/4" Diaphragm Pump*	(1)	PD02P-ADS-DTT

GENERAL DESCRIPTION

The 650501-B Portable Pumping System includes fittings, wall/cart bracket, regulators, siphon tube, gauges and hardware. It is intended to be used in conventional HVLP (High Volume Low Pressure) spray systems. These systems generally operate using low material pressure (less than 30 p.s.i.), and when complimented with the proper gun, it produces a "soft spray".

Read the information included with the spray gun for system settings and operation information.

The diaphragm pump uses acetal seats, PTFE checks and diaphragms and is designed to be used with waterborne paints. The gun and low pressure air and material hoses are not included. (Continued)

INGERSOLL RAND COMPANY LTD

209 NORTH MAIN STREET - BRYAN, OHIO 43506

☎ (800) 495-0276 • FAX(800) 892-6276

© 2010

www.ingersollrandproducts.com

ARO

IR Ingersoll Rand
Industrial Technologies

PARTS LIST / 650501-B

Item	Description (Size in inches)	(Qty)	Part No.	Item	Description (Size in inches)	(Qty)	Part No.
1	Bracket	(1)	94040	14	Male Elbow (1/4" o.d. tube - 1/4"-18 male thd)	(2)	59745-156
2	Adapter (3/8"-18 male x 1/4"-18 male)	(1)	90538	15	Bracket	(1)	93839
3	Adapter (1/4" - 18 NPTF)	(3)	1950	16	Tubing (1/4" o.d. x 8-1/2" long)	(1)	59675-100 ○
4	Connector	(1)	23902-210	17	Bolt (1/4" - 20 x 1")	(4)	Y6-45-T
5	Gauge (0 - 60 p.s.i.)	(1)	100090	18	Washer (.281" i.d. x .625" o.d.)	(4)	93096
6	Gauge (0 - 160 p.s.i.)	(1)	100091	19	Nut (1/4" - 20)	(4)	Y12-4-S
7	Coupling (1/4" - 18 NPT)	(1)	Y43-42-C	20	Tube (6' long)	(1)	59840-62
8	Tee (1/4" - 18 NPTF)	(1)	94039	21	Elbow	(1)	94043
9	Gauge (0 - 30 p.s.i.)	(1)	93769	22	Tube (36" long)	(1)	93320
10	Adapter	(1)	94511	23	Nut	(1)	94036
11	Tube (12" long)	(1)	628091-1	24	Roll Pin (.094" o.d. x .250" long)	(1)	Y178-18-S
12	Nut	(2)	100022	25	Elbow (1/4" - 18 NPTF)	(1)	94044
13	Coupler	(1)	23102-200	26	Ground Kit Assembly (not shown)	(1)	66885-1

○Tube is available in bulk quantities only.

GENERAL DESCRIPTION (CONTINUED)

Consult your sales representative for the proper low pressure gun and other accessories which will best match the application.

This system includes a wall mount bracket which can also be attached to cart pn 67074.

Theory of operation:

HVLP (High Volume, Low Pressure) is a spray process which uses a high volume of air (15 - 22 c.f.m.) at a low pressure (10 p.s.i. or less) to

atomize the material, producing both high transfer efficiency (the total percent of material that actually stays on the intended surface) and a quality finish. The air cap of the HVLP gun injects air into the fluid after it passes through the orifice restriction. The low velocity of the material being sprayed minimizes the over-spray and bounce-back that is associated with conventional air spray.

OPERATING INSTRUCTIONS

⚠WARNING DO NOT EXCEED MAXIMUM OPERATING PRESSURE OF 100 P.S.I. (6.9 BAR) AT 100 P.S.I. (6.9 BAR) AIR INLET PRESSURE.

⚠WARNING READ THE PUMP MANUAL FOR ADDITIONAL OPERATING AND SAFETY PRECAUTIONS AND OTHER IMPORTANT INFORMATION.

- Spray Gun Air Pressure - 60 p.s.i. maximum. Note: At 30 p.s.i. nominal setting it will deliver approximately 8 p.s.i. at the air cap when using 5/16" i.d. x 15' long air hose.
- Set air pressure to the pump at approximately 2x (two times) the operating material pressure.
For example: If 15 p.s.i. material pressure is required, adjust the pump air regulator/gauge pressure to approximately 30 p.s.i. Use the material pressure regulator to adjust. Control the spray gun air volume using the air regulator.

INITIAL SETUP PROCEDURE

NOTICE

REFER TO THE INFORMATION INCLUDED WITH THE LOW PRESSURE HVLP GUN FOR SYSTEM SETUP INFORMATION. THE SYSTEM IS INTENDED FOR LOW PRESSURE APPLICATION ONLY.

- Attach air supply hose, gun and low pressure material hose.
- Install the connector to the air supply hose.
- Attach the ground wire to a suitable ground.
- The gun air supply hose must be 5/16" i.d. minimum.
- Keep containers covered to prevent contamination.

Nominal system settings:

- Pump Outlet Material Pressure - 15 p.s.i. maximum.

START-UP

1. Turn the knob on the air regulator counterclockwise to zero p.s.i.
2. Place (22) tube into the container of material.
3. The operating pressure should be set at the lowest needed to atomize and deliver the paint. Start with the gun material pressure about the same as the air supply and adjust up or down to set the pattern.
4. Start the pump to cycle by turning the air regulator knob clockwise. The pump will cycle several strokes until pressure is built up in the system, at which time it will stop. Check for any loose fittings or leakage.

